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ABSTRACT

Microcomputers were used by 24 gifted students in a Utah elementary school to produce a school newspaper. Students used word processing (Bank Street Writer) and desktop publishing software (The Newsroom). They met in small groups over a 3-week period to develop basic journalism skills such as interviewing, writing and editing articles. Articles were then typed and organized in general categories such as world events, sports, school events, and comics, and the layout was determined. Project evaluation indicated: students learned to use the word processor in less than an hour; and the desktop publishing software encouraged students to use creativity and organizational skills. Other results were that fourth graders were more motivated and involved than sixth graders and most of the children demonstrated a sense of ownership and intrinsic motivation. The project also increased teachers' interest in the computer lab and received the support of both administrators and parents. Five references. (DB)

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CHALLENGING GIFTED ELEMENTARY SCHOOL STUDENTS THROUGH COMPUTER-BASED NEWSPAPER PRODUCTION

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CHALLENGING GIFTED ELEMENTARY SCHOOL STUDENTS THROUGH COMPUTER-BASED NEWSPAPER PRODUCTION

Are the microcomputers in your elementary school being used to expand the horizons of gifted and talented students?

The present report summarizes a project designed to challenge gifted students in an elementary school using microcomputers. The purpose of the project was to determine the effectiveness of using microcomputers in developing an elementary school newspaper. While more extensive studies remain to be done, the results of this project indicate that producing a school newspaper using microcomputers is an appropriate educational activity for challenging elementary gifted students.

Computer technology has tremendous potential to challenge intellectually advanced students. Goals of gifted programs are often expressed in terms of higher-order mental processes, such as collection and interpretation of data, application of knowledge to real-life situations, problem-solving, and critical thinking, including analysis, synthesis, and evaluation of information. Computers have the capability to give students extensive practice in interpreting, analyzing, synthesizing, applying and evaluating information. Dover (1983) stated that because gifted students have above-average ability, creativity, and task commitment, they bring a powerful store of talents to their interaction with computers. She also stated that it is becoming increasingly apparent that the inclusion of computer activities in the curriculum of gifted and talented student programs should be a high priority for them.

Unfortunately, many gifted programs in the elementary schools have not taken advantage of the computer's potential for challenging students. Torgerson (1985) stated that a recent on-line search of the ERIC data base combining the descriptors "Gifted" and "Computers" and "Primary/Elementary Education/Intermediate" produced only 10 entries. The limited literature on computers and the gifted indicates that many gifted programs are not using computers in their curriculum.

If computers have such tremendous potential, why aren't they being used in gifted programs? Torgerson (1985) has suggested the following reasons: 1) teachers and students have not had the time to explore the possibilities of educational computer activities, and 2) microcomputers are usually scarce; equal access by all students is difficult to achieve. The present authors have found evidence to support Torgerson's first reason; many gifted programs do not include computers in their curriculum because many educators are not aware of appropriate computer activities for students.

Most of the literature on using computers with gifted students suggests the use of sophisticated Computer Assisted Instruction (CAI), particularly in math and science, and programming as appropriate educational activities (Dover, 1983). Torgerson (1985), however, recommends that using the computer as a tool to solve problems is also an appropriate educational activity for challenging gifted students. For example, she suggests the following activities: developing a data base, creating computer graphics, originating musical compositions, writing creative prose, and developing a school newspaper.

We thought the idea of using computers to develop an elementary school newspaper had a high degree of merit and worth. It is common for a junior high or high school to have a school newspaper; however, it is rare for an elementary school to have a newspaper. We conducted a literature review on the topic of using computers in elementary schools to develop a school newspaper and didn't find any references related to this topic. We conducted this project to determine the effectiveness of using microcomputers to develop an elementary school newspaper.

IMPLEMENTATION OF THE PROJECT

The project was conducted at an elementary school in Orem, Utah. The elementary school principal selected 24 gifted students from the sixth, fourth and second grade levels to participate in the project. Only eight students were selected from each grade level because the school's computer lab would only handle eight students at a time. The sixth and fourth grade groups consisted of four girls and four boys. The second grade group consisted of six girls and two boys. Each

student was asked if he or she wanted to participate in the investigation. All the children chose to be involved.

The equipment and resources used in the investigation belonged to the elementary school. The students used Commodore computers located in the school's computer lab. The lab had eight computers networked together using a system called a VIC Switch, which allowed eight computers to access the software in one disk drive. The students used the word processing program *Bank Street Writer* (1985) for entering their articles into the computer. The desktop publishing software program called *The Newsroom* (1985) was used for designing the page layout and combining clip-art computer graphics with text.

The children were excited about producing a school newspaper when the idea was presented to them. Each child selected a section of the paper they would be responsible for developing. For example, one child wanted to be the advertising and world events editor, another wanted to be the school events and comics editor, etc. After they selected their responsibilities, each group announced the details of the school newspaper to the classes for that grade. The children explained their assigned editorial responsibilities and requested the other students to submit articles or other entries to the newspaper editors.

The children were involved in a number of tasks during the three-week production phase. Each group met three days a week for about three weeks, except for the second grade group which met for about a week and a half. One of the first tasks of the project was to help the children develop basic journalism skills, such as interviewing, writing and editing articles. Once they learned these basic skills, we taught them how to use the word processing program *Bank Street Writer*. The gifted students typed articles they received from other students using the word processor.

After the editors typed their articles (or articles submitted to them) using the word processor, they edited the documents for spelling and grammar errors. Following this task, they organized the articles according to general categories, such as world events, sports, school events, comics

and determined the layout for each page. The students also selected computer clip-art graphics which were inserted in their articles.

Once the camera-ready master of the newspaper was printed, the last major task involved distributing copies of the newspaper. Enough copies were made for all the students, administrators and faculty. Copies of the paper were distributed without charge by the student editors and administrators.

RESULTS

Despite the limited time to complete the project, the newspaper was a success. The paper ran six pages (8 1/2" by 11" size paper), with one section for each grade involved in the project. Using the capabilities of the software package *The Newsroom*, the newspaper was formatted in double columns, included computer clip-art graphics in the articles, had different character sizes and fonts, and had lines and other graphics within the text. The following sections discuss findings of the project.

Impact of the Computers

The students learned how to use a word processor in less than an hour. A few second graders did not type their documents because they wanted to make a crossword puzzle and thought it would be much easier to create it with a pencil and paper rather than using the computer. Other than these few second grade students, all the students typed and edited their documents using the word processor. By the end of the project, most of the sixth graders (and a few of the fourth grade students) could load the word processor, type and edit their documents, and print them without help or supervision. Some students composed their articles on the word processor. The children easily identified the major advantages of the word processor once they began to edit their documents. Even though the children received help in identifying grammar errors, they corrected most of the typographical and other obvious errors. Most of the students seemed to enjoy working on the word processor. Many students immediately began typing their articles upon entering the lab without saying a word to anyone else because they were so intent on finishing their tasks.

Using the software application for desktop publishing provided an opportunity for the children to use their creativity and organizational skills. They exercised their creativity when they selected appropriate clip-art graphics to accompany their articles. They used their organizational skills as they determined the layout for the pages.

Student Involvement and Motivation

A surprising observation was that the fourth grade students were much more involved and motivated about working on the paper than the sixth grade group. During the three week production of the paper, the fourth grade students not only had written and collected more articles than the sixth grade students, but they also typed them into the word processor faster. As an example of the fourth grade students' dedication to the paper, on the day of the school's Spring Fling (a fun day for the children, including a carnival, games, sports etc.), all of the fourth graders showed up to work on the newspaper at their scheduled time. In contrast, only three of the eight sixth grade students showed up to work on the newspaper. As another example, the fourth grade students wanted a different name than the one the sixth grade students decided on for the entire paper (the name the sixth grade students gave the paper was "The Wildcat Press"). The fourth grade group named their section of the paper "Cats in Action." The sixth grade students were not as enthusiastic about the production of the paper as were the fourth and second graders.

Students generally seemed to enjoy working on the school paper and felt a sense of pride and ownership. Some of the students brought their friends into the computer lab and gave them a personal tour of the production process. A few of the students asked if they could have many copies of the paper so they could give a copy to their grandparents, uncles, aunts and cousins. The nature of the project seemed to encourage an internal motivation within the children to work on their own and require little supervision. Of course there were times when encouragement and discipline were needed, but most of the time was spent in assisting the students in completing their tasks. The childrens' sense of ownership was increased when they saw their opinions published in the paper, just as they had written them. For example, many children expressed their disapproval of the color of paint the custodians used to recently paint the school building. One of

the girls was surprised when we told her that we wouldn't change her fictitious gossip column concerning a very unhappy girl with a bad case of acne. We stressed that their articles should conform to standards of writing decency, such as no ethnic jokes, their opinions should not be intended to hurt other people, and they should not include vulgarity.

There were some interesting differences among the students. The sixth grade boys were much more aware of world and national political events than the sixth grade girls. Many of the boys wanted to interview the principal to determine whether on not he thought President Reagan did the right thing when he ordered the bombing of Libya, and what he thought the American people should do about the Chernobyl crisis in the Soviet Union. The boys were much more involved in the comics/jokes and sports sections than the girls. The sixth grade girls were more interested in horoscopes, gossip columns, school events, advertising, and school opinions. Differences between girls and boys in the fourth and second grades were not as obvious as the in sixth grade.

Teachers', School Administrators' and Parents' Involvement

The project sparked a good deal of teachers' interest in the computer lab. They wanted to know how their students were using the computers to develop the school newspaper. During the development phase of the paper, many teachers from the fourth and sixth grades came into the computer lab to see what was happening. After their students showed them the word processing program and the desktop publishing program, most of the teachers said they would strongly encourage the rest of their students to submit entries for the paper.

The principal and PTA president were very supportive of the entire project. In fact, the principal wrote a proposal to the School District seeking funding for the project because the District had money budgeted for the development of their gifted and talented programs. The principal came in the computer lab often to check the progress of the paper. Upon completion of the project, the principal said he was going to make sure the newspaper would continue next year.

Parents were also supportive of the newspaper. Many commented on how enthusiastic their children were about working on the paper. For example, one father commented concerning his son, "It kept him busy and involved when he was getting bored." A mother said of her daughter,

"She's not easily challenged at school, and this [the newspaper] was a challenge for her." "I definitely noticed a positive change in my daughter's enthusiasm about school," commented another mother.

CONCLUSIONS

Developing an elementary school newspaper is an appropriate educational activity for challenging gifted students. Not only did this activity provide a challenge for the students, but students were highly motivated to accomplish the project. The computers were an important tool in writing, editing, and designing the layout of the paper. We found that this activity is appropriate for elementary schools, even at the second grade level. Second grade children learned how to use the computer quickly and with much more ease than we had originally expected.

The children who participated in this project gained valuable experience in using a computer as a tool in a practical application. Probably the most important thing they learned was an understanding of the utility and advantages of using a word processor. Many of the students revised and printed their articles several times before their final version of the article. Multiple revisions would not have been possible using a typewriter. In addition, the children recognized the advantages of using a desktop publishing package like *The Newsroom* for combining graphics with text, using different fonts and sizes, designing different page layouts, etc.

The children who participated in this investigation also had an opportunity to practice their language arts and organizational skills. As Orchard (1982) explained, a "school newspaper can generate much enthusiasm, while developing reading and writing skills, interviewing skills, and organizational skills." Students used their language arts skills in such activities as thinking what topics to write about, writing their articles, reading and editing other students articles, asking people questions during a news interview and listening to how they responded. In addition, students also practiced their organizational skills in activities such as laying out the design of the newspaper, working with other students to accomplish specific tasks, and prioritizing tasks to be completed.

Recommendations

We recommend the following suggestions for developing a school newspaper using the microcomputers in your school.

- Start the development of your newspaper early in the school year.
- Charge a minimal fee to purchase the newspaper. This gives the students some experience in budgeting and handling money.
- Take the editors on a field trip to a local newspaper company. If that isn't possible, at least show a movie on the topic or have an editor of a newspaper be a guest speaker to the students.
- Involve other teachers in the newspaper. This recommendation would help to involve teachers more in the use of computers in your school.
- Encourage the children to obtain advertising from local businesses or organizations. This task gives children an opportunity to practice their verbal communication skills.

Questions

Before you implement a school newspaper using microcomputers, you should consider the following questions.

- Who will be responsible for directing and supervising the students throughout the project?
- Who will supervise the students in the computer lab?
- How long and when will the students work on the newspaper?
- What software is available in your school's computer lab? Will more software be required?
- How will you select the students to participate in the project as student editors?
- Will the number of pages and articles accepted be limited to a specified number? How will you judge what articles to accept for publication?
- How much will you charge for copy of the paper?
- How will the paper be distributed?

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